

**I N T H E U N I T E D S T A T E S  
P A T E N T A N D T R A D E M A R K O F F I C E**

**Patent Application**

**Inventors:** Sachin Garg et al.

**Serial No.:** 10/662724

**Conf. No.:** 1503

**Filing Date:** 9/15/2003

**Art Unit:** 2143

**Examiner:** Sikri, Anish

**Docket No.:** 630-044US

**Title:** Congestion Management in Telecommunications Networks

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

The applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

Respectfully,  
Sachin Garg et al.

By /Jason Paul DeMont/

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Dear Sir:

**PRE-APPEAL BRIEF REMARKS**

Claims 1-12 were presented for examination and were rejected.

The applicants respectfully traverse the rejections and request reconsideration in light of the following comments.

**35 U.S.C. 102 Rejection of Claims 1-12**

Claims 1-12 have been rejected under 35 U.S.C. 102(b) as anticipated by N.A. Lyon et al., U.S. Patent 6,333,917 B1 (hereinafter "Lyon"). The applicants respectfully traverse the rejection.

When traversing an art-based rejection, the applicants would normally begin by clearly pointing out the limitations in the claim that are not found in the prior art. In this case, however, the applicants believe that it is easier to understand the language underlying the claim limitation when one first understands the reason for the limitation.

The applicants understand that this reversal of order is unusual, but promise that the allowability of the claims will be clear at the end.

Before RED and other congestion management schemes were invented, there were thousands of networks that contained thousands of switches that could be congested. Today, there are still thousands of networks and thousands of switches that can be congested. In many cases, RED and other congestion management schemes can not be retrofitted into the existing switches.

The answer according to Lyon and the other prior art is to replace the old switches — those that did not have congestion management — with new switches, like that taught by Lyon — that did have congestion management.

The inventors of the present invention recognized that this is prohibitively expensive in many cases and would require the replacement of otherwise perfectly good switches. In response, the inventors of the present invention invented a inexpensive device that:

1. that could be added to legacy networks without reconfiguring the network,
2. that would perform congestion management, and
3. that would not require replacing otherwise perfectly good switches, and
4. that would not require the legacy switches to be re-programmed or re-configured.

This device — called a “protocol-data-unit excisor” — would not perform a switching function. That function would continue to be performed by the legacy switches.

Now we address claim 1.

One theory for distinguishing the present invention from the prior art was a protocol-data-unit excisor that received a metric of congestion for a queue in another node, and that performed congestion management for that node, wherein the protocol-data-unit does not comprise a switch. The applicants respectfully submit that this is a good theory, but it has the practical problem that the prohibition against negative claiming prevents one from claiming “a device that does not switch protocol data units.”

The applicants, however, recognized that there is a way to positively and permissibly claim a device that does not switch protocol data units.

The opposite of not switching protocol data units is for all of the protocol data units that are received on one input are all destined for one destination. In other words, if all of the protocol data units that arrive at one input are all destined for one destination, then the device does not do any switching.

And this is what the present invention in claim 1 recites.

Claim 1 recites:

**1. A method comprising:**

***receiving a first plurality of protocol data units at a first input of a protocol-data-unit excisor, wherein all of the protocol data units received at said first input are en route to a first congestible node;***

receiving at said protocol-data-unit excisor a metric of a queue in said first congestible node; and

selectively dropping, at said protocol-data-unit excisor, one or more of said first plurality of protocol data units based on said metric of said queue in said first congestible node.

***(emphasis supplied)***

The first subparagraph of claim 1 positively recites that all of the protocol data units that arrive at one input of the “protocol-data-unit excisor” are en route to one congestible node. What does this imply? It implies that the protocol-data-unit excisor does not perform a switching function on the protocol data units that arrive at that input.

Because the congestion management of Lyon and the prior art is integrated with a switching function, the applicants respectfully submit that the rejection is traversed.

Because claims 2 and 3 depend on claim 1, the applicants respectfully submit that the rejection of them is also traversed.

Claim 4 recites:

**4. A protocol-data-unit excisor comprising:**

a first input for receiving a first plurality of protocol data units, ***wherein all of the protocol data units received at said first input are en route to a first congestible node;***

a second input for receiving a metric of a queue in said first congestible node; and

a processor for selectively dropping one or more of said first plurality of protocol data units based on said metric of said queue in said first congestible node.

***(emphasis supplied)***

Because claim 4 also recites language that precludes the switching function, the applicants respectfully submit that the rejection of it is traversed.

Because claims 5 and 6 depend on claim 4, the applicants respectfully submit that the rejection of them is also traversed.

Claim 7 recites:

**7. A method comprising:**

receiving a first plurality of protocol data units at a first input of a protocol-data-unit excisor, ***wherein all of the protocol data units received at said first input are en route to a first congestible node;***

estimating in said protocol-data-unit excisor a first metric of a first queue of protocol data units in said first congestible node based on said first plurality of protocol data units; and

selectively dropping, at said protocol-data-unit excisor, one or more of said first plurality of protocol data units en route to said first congestible node based on said first metric.

***(emphasis supplied)***

Because claim 7 also recites language that precludes the switching function, the applicants respectfully submit that the rejection of it is traversed.

Because claims 8 and 9 depend on claim 7, the applicants respectfully submit that the rejection of them is also traversed.

Claim 10 recites:

**10. A protocol-data-unit excisor comprising:**

a first input for receiving a first plurality of protocol data units, ***wherein all of the protocol data units received at said first input are en route to a first congestible node;*** and

a processor for estimating a first metric of a first queue of protocol data units in said first congestible node based on said first plurality of protocol data units, and for selectively dropping one or more of said first plurality of protocol data units en route to said first congestible node based on said first metric.

***(emphasis supplied)***

Because claim 10 also recites language that precludes the switching function, the applicants respectfully submit that the rejection of it is traversed.

Because claims 11 and 12 depend on claim 10, the applicants respectfully submit that the rejection of them is also traversed.

**Request for Reconsideration Pursuant to 37 C.F.R. 1.111**

The applicants respectfully request reconsideration of the instant application pursuant to 37 CFR 1.111 and request that the Examiner allow all of the pending claims and pass the application to issue.

If there are remaining issues, the applicants respectfully request that Examiner telephone the applicants' attorney at 732-578-0103 x11 so that those issues can be resolved as quickly as possible.

Respectfully,  
Sachin Garg et al.

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